PROGRAM CHARTER

FOR

Aviation Weather

Program Manager's Name: Kevin Johnston

Goal Team Lead's Name: CAPT Steven Barnum

1. EXECUTIVE SUMMARY

National Oceanic and Atmospheric Administration's Aviation Weather Program within the Commerce and Transportation Goal Team exists to satisfy the requirements of USC Title 49 which identifies NOAA as the meteorological provider of weather information to the Federal Aviation Administration (FAA). In addition, the program ensures that U.S.-provided weather information conforms to the requirements of the International Civil Aeronautical Organization (ICAO), Annex 3 for global aviation operations which the U.S. is responsible for.

The Aviation Weather Program uses 122 Weather Forecast Offices (WFOs), 2 consolidated Aviation Weather Production Centers, 3 Meteorological Watch Offices, 2 Volcanic Ash Advisory Centers, and 2 Tropical Cyclone Advisory Centers to provide services to the Federal Aviation Administration (FAA) to improve operation of the National Air Space System (NAS). This includes support to general, commercial passenger and cargo aviation services. The program addresses current shortfalls in the accuracy, consistency, and timeliness of NOAA's aviation products by transitioning observation, forecast, training, and verification technologies matured in NOAA, FAA and National Aeronautics and Space Administration (NASA) laboratories into operations and service. The Aviation Weather Program partners with other Government organizations including the FAA, NASA and Department of Defense (DOD) to leverage their annual investment in aviation weather and related technologies. Key examples of program efforts include development and deployment of an integrated digital observation capability with related forecast database and associated interactive tools. Additionally, the Aviation Weather Program serves as the primary NOAA liaison to the Joint Planning and Development Office (JPDO). This multi-agency initiative was established in 2003 to develop and carry out an integrated plan for the Next Generation Air Transportation System (NextGen) which will transform the National Airspace System (NAS) to enable it to accommodate the expected tripling of demand for air transportation by 2025.

Federal agencies, international partners, the global airline industry, general aviation community and transportation mangers are the principal users of the program's aviation observation and forecast products. The Aviation Weather Program focuses on improving observations, forecasts and training capabilities to deliver reductions in the number of weather related aviation mishaps and the number and extent of weather related flight delays. Current FAA statistics indicate that weather causes over three quarters of all air carrier delay. The FAA estimates that this is a $10B socio-economic impact to the U.S. economy; nearly two thirds of which is deemed preventable by providing more accurate weather information and by further integrating improved observations and forecasts into the NAS decision making processes. The accuracy improvements delivered by the aviation weather program will substantially reduce weather related air traffic delays and provide commercial and general aviation pilots with the accurate and timely information needed to avoid hazardous conditions.

Additional information is available at: http://www.weather.gov/os/aviation.shtml

2. PROGRAM REQUIREMENTS.

A. Requirement Drivers:

The following list of drivers provides highlights of legislation and high level policies that shape the aviation weather program. This is by no means an exhaustive synopsis of policy that influences aviation weather efforts.

1) Title 49 of the U.S. Code of Federal Regulations (49 U.S.C. 44720), which includes the Federal Aviation Act of 1958 (as amended) sets forth responsibilities of DOC and the FAA to develop, maintain inter-agency and international agreements that promote air safety and efficiency to the highest possible degree.

2) Title 15 of the U.S. Code of Federal Regulations (15 U.S.C. 3134b) states the Administrator of NOAA shall establish the Aviation Weather Center in Kansas City, MO to provide weather forecasts and other relevant information for the aviation community.

3) Public Law No: 108-176 Section 709, 117 Stat. 2582 (2003)(49 U.S.C. Section 40101 note) outlines responsibilities of the DOT, FAA, DOC, NOAA and Joint Planning and Development Office (JPDO) to conduct integrated planning for the Next Generation Air Transportation System (NextGen).

4) Memorandum of Understanding between the FAA and the NWS for Policy agreements (September, 2002) per Title 49 USC, On behalf of DOC, NOAA, and NWS, the Aviation Weather program has entered into an overarching agreement to govern all programmatic activities regarding aviation weather information.

5) Memorandum of Agreement between the FAA and the NWS “INTERAGENCY AGREEMENT NO. DTFAWA-08-X-80000”, Per Title 49 USC, in partnership with the FAA on behalf of DOC and NOAA, NWS operates Center Weather Service Units (CWSU). The CWSU personnel provide onsite weather analysis to assist air traffic control and traffic management operations.

6) Traffic Management Unit User Needs Analysis (FAA, 1999, 2002 and 2004) defining U.S. aviation weather product accuracy requirements. Per Title 49 USC, The FAA provides analysis and recommendations for dynamic standards of accuracy for aviation weather information to DOC, NOAA, and NWS. All recommendations made by the FAA to the Secretary of DOC are to be provided complete consideration to promote aviation safety and efficiency to the highest possible degree.

7) ICAO International Standards and Recommended Practices – (Meteorological Service for International Air Navigation -Annex 3), Per Title 49 USC, DOC, NOAA, NWS are mandated to maintain and coordinate international exchanges of meteorological information. This policy document governs aircraft operations with defined standards for weather information for the majority of the planet’s airspace.

8) Next Generation Air Transport System- (Integrated Plan 12 December 2004) per Title 49 USC, DoC and DOT have engaged in joint planning to investigate a next generation National Air Space System with strategies to accommodate increased demand and congestion with specific focus on mitigating weather impacts on aviation operations in response to the aerospace industries demands for the redesign of aviation policy.

9) Final Report of the Future of the United States Aerospace Industry, November 2002, Formal policy request to the President and congress from private industry leadership describing specific need for changes and future requirements such as four- dimensional atmospheric products and the implementation of integrated highly accurate digital database technology for the entire National Air Space System.

10) NextGen Integrated Work Plan, version 0.2 (February, 2008), per Title 49 USC DoC is required to participate in the JPDO. The JPDO has developed this Work Plan to describe specific activities needed by NextGen. DoC is identified as primarily responsible for many of these activities including development of improved forecasts and models, development and implementation of a 4-Dimensional Cube of weather information and development of Weather Data Standards.

B. Mission Requirements:

1) Provide highly accurate, timely, and consistent terminal, area, and world forecasts,

advisories and warnings in digital, graphical and textual formats that are integrated into decision support processes (Requirement Driver 1-10).

2) Establish and maintain a National Aviation Weather Center (Requirement Driver: 2).

3) Provide on demand weather decision support for FAA Air Route Traffic Control Centers (ARTCC) (Requirement Driver: 1, 4, and 5).

3. LINKS TO THE NOAA STRATEGIC PLAN

The Aviation Weather Program contributes to achieving NOAA's vision and supporting the mission by generating and improving upon timeliness, accuracy and consistency of aviation forecast products and services in partnership with the Nation's Air Space stakeholders.

A. Goal Outcomes: Safe, secure, efficient, and seamless movement of goods and people in the U.S. transportation system.

B. Goal Performance Objectives:

1) Enhance navigational safety and efficiency by improving information products and services.

2) Realize national economic, safety, and environmental benefits of improved, accurate positioning capabilities.

3) Reduce weather-related transportation crashes and delays.

4) Reduce human risk, environmental, and economic consequences resulting from natural or human-induced emergencies.

C. Goal Strategies:

1) Expand and enhance advanced technology monitoring and observing systems, such as weather and oceanographic observations, ice forecasts and now casts, hydrographic surveys, and precise positioning coordinates, to provide accurate, up-to-date information.

2) Develop and apply new technologies, methods, and models to increase the capabilities, efficiencies, and accuracy of transportation-related products and services.

3) Develop and implement sophisticated assessment and prediction techniques, products, and services to support decisions on aviation, marine, and surface navigation efficiencies; coastal resource management; and transportation system management, operations, and planning.

4) Build public understanding of the science and technology involved and the role of the environment in commerce and transportation through outreach, education, and industry collaboration.PROGRAM OUTCOMES

A. Reduction of National Air Space (NAS) delays and mishaps related to weather.

B. Improve, accuracy, consistency, and relevance of weather information to National Air Space (NAS) users.

C. Development of a forecast process, and associated systems and tools, which allows meteorologists to generate rapidly updated, high resolution probabilistic weather information which is consistent across space and time.

D. Digital output of weather information enabling rapid updates of graphical displays for weather and direct integration into Air Traffic Management.

5. PROGRAM ROLES AND RESPONSIBILITIES

This program is established and managed with the procedures set forth in the NOAA Business

Operations Manual. Responsibilities of the Program Manager are described in the BOM. Responsibilities of other major participants are summarized below:

A. Participating Line Office, Staff Offices and Council Responsibilities:

1) NOAA National Weather Service (NWS) is responsible for providing the trained personnel, facilities and equipment to deliver specific aviation weather services to the Federal Aviation Administration (FAA) to support the NAS. NWS laboratories develop observation, forecast, training, and verification technologies required to improve aviation weather observation and forecast products and systems.

2) NOAA Satellites and Information (NESDIS) is responsible for developing satellites capable of meeting aviation forecast observational needs and providing technical support for integrating satellite observation products into aviation weather observation and forecast systems.

3) NOAA Research (OAR) is responsible for conducting basic and applied research in the upper and lower atmosphere to support National Weather Service modernization for improvements in numerical modeling, satellite information and sophisticated weather warning and display systems.

4) General Counsel (GC) is responsible for providing legal services necessary to enable the program to discharge its duties. In this regard, GC provides a variety of specific services on an as-needed basis, including but not limited to: advice on legal issues related to program responsibilities; review and clearance of agreements, testimony, correspondence, and other documents; legal representation; assistance with litigation and requests for testimony or information; and coordination on behalf of the program with the Department of Commerce GC in the areas of contract, grant, intellectual property, labor and employment, appropriations, legislation and regulation, grant, litigation, and telecommunications law.

B. External Agency/ Organizations

1) Federal Aviation Administration (FAA): Responsible for the day to day operations of the Nations Air Space (NAS).

2) Joint Planning and Development Office (JPDO): Substantial coordination of all planning and implementation is required. Efforts involving modification of aviation weather information that affects the baseline configuration of the Air Transport System are especially important. The JPDO is responsible for planning and implementing the Next Generation Air Space System which involves NASA, FAA, DoD, DoT and DHS.

3) National Transportation Safety Board (NTSB): Collaboration on investigations and analysis of incidents leading to recommendations for Aviation Weather Information.

6. END USERS OR BENEFICIARIES OF PROGRAM

A. Department of Transportation and the Airline Industry: Significant reduction in delays and mishaps attributed to weather.

B. Commercial Industry: Economic efficiencies gained from more efficient aircraft operations.

C. Department of Defense: Improved mission planning and execution in support of National Security.

D. General Public: A safer and more efficient mode of transportation.